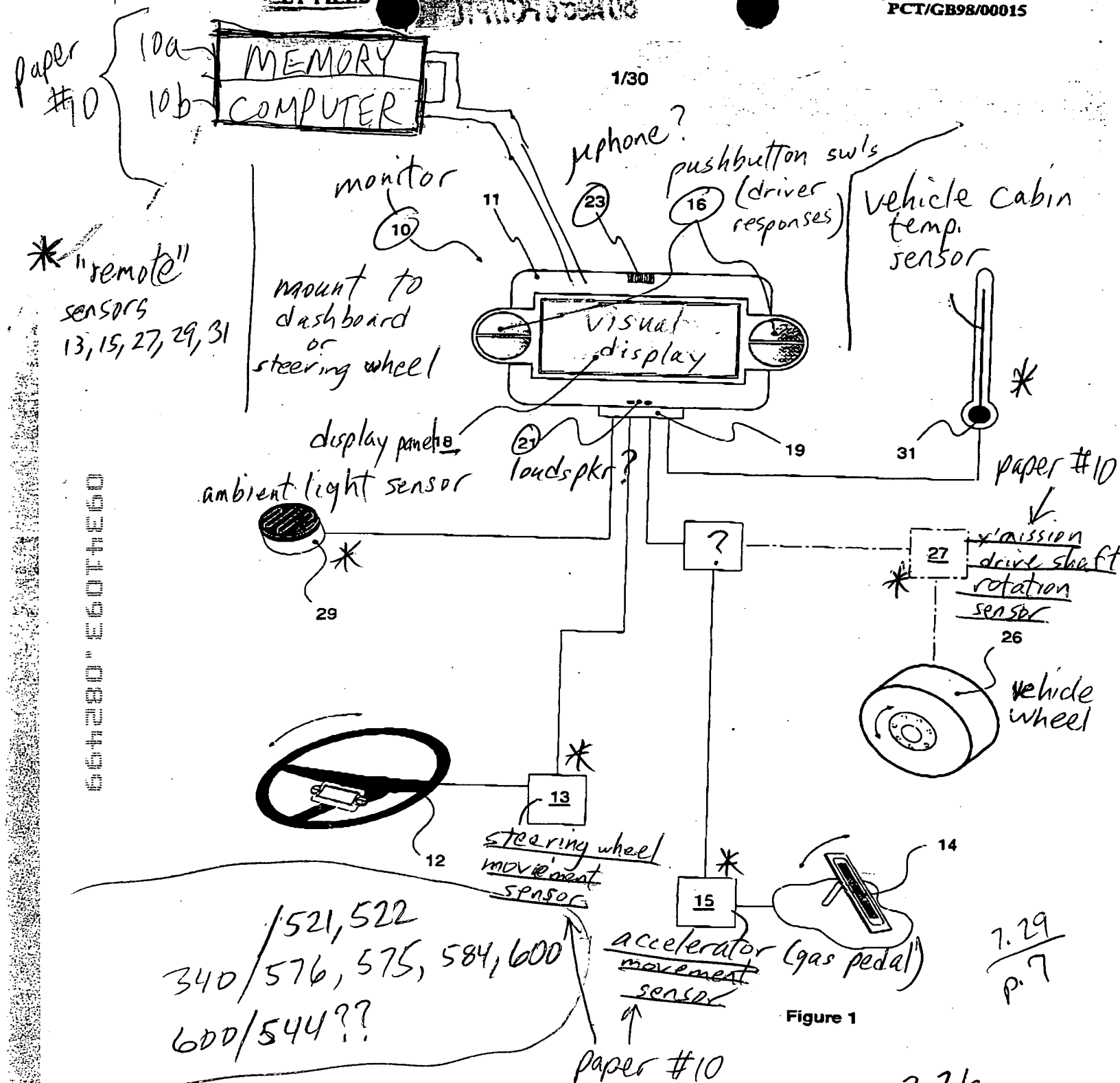


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1521, 522
340/576, 575, 584, 600
600/544??

Descr. legends

Fig 1 - 13, 15, 27

Fig 13C - 33

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2.26
6.24
6.29
Spec. Headings
Rule 77

EFD 1/4/97

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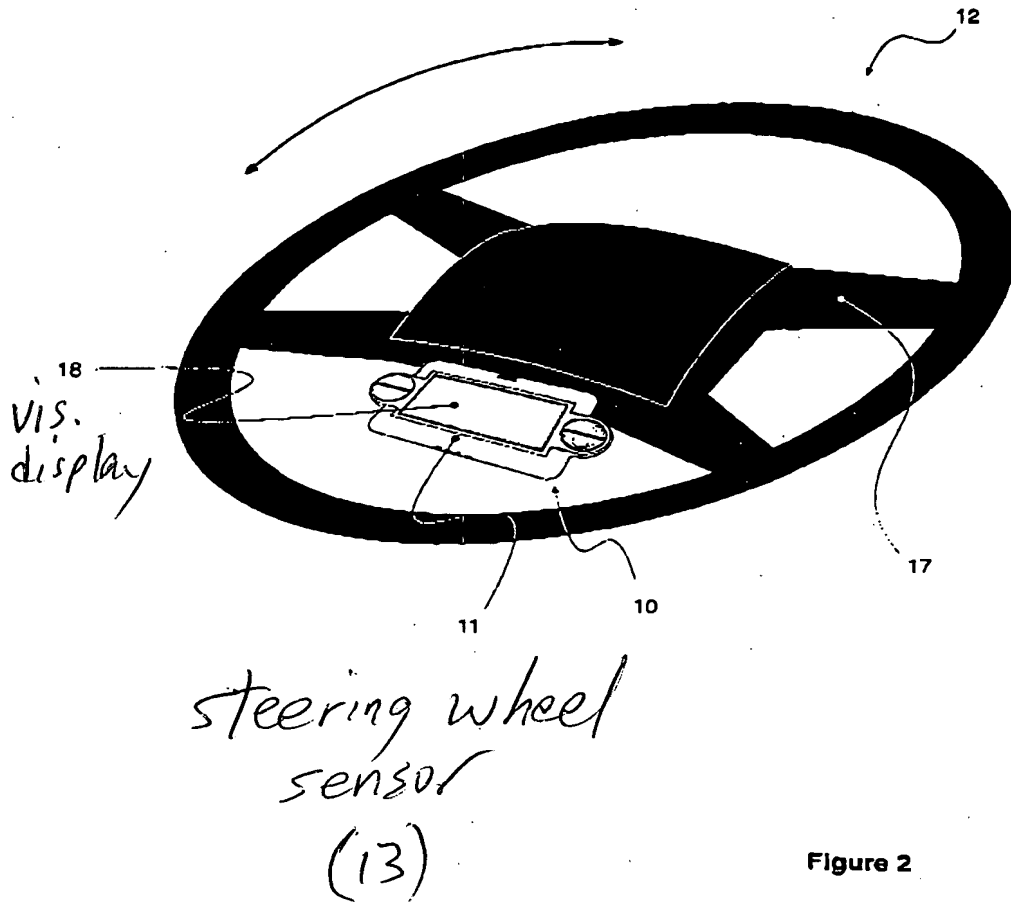


Figure 2

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LIKELIHOOD OF FALLING ASLEEP

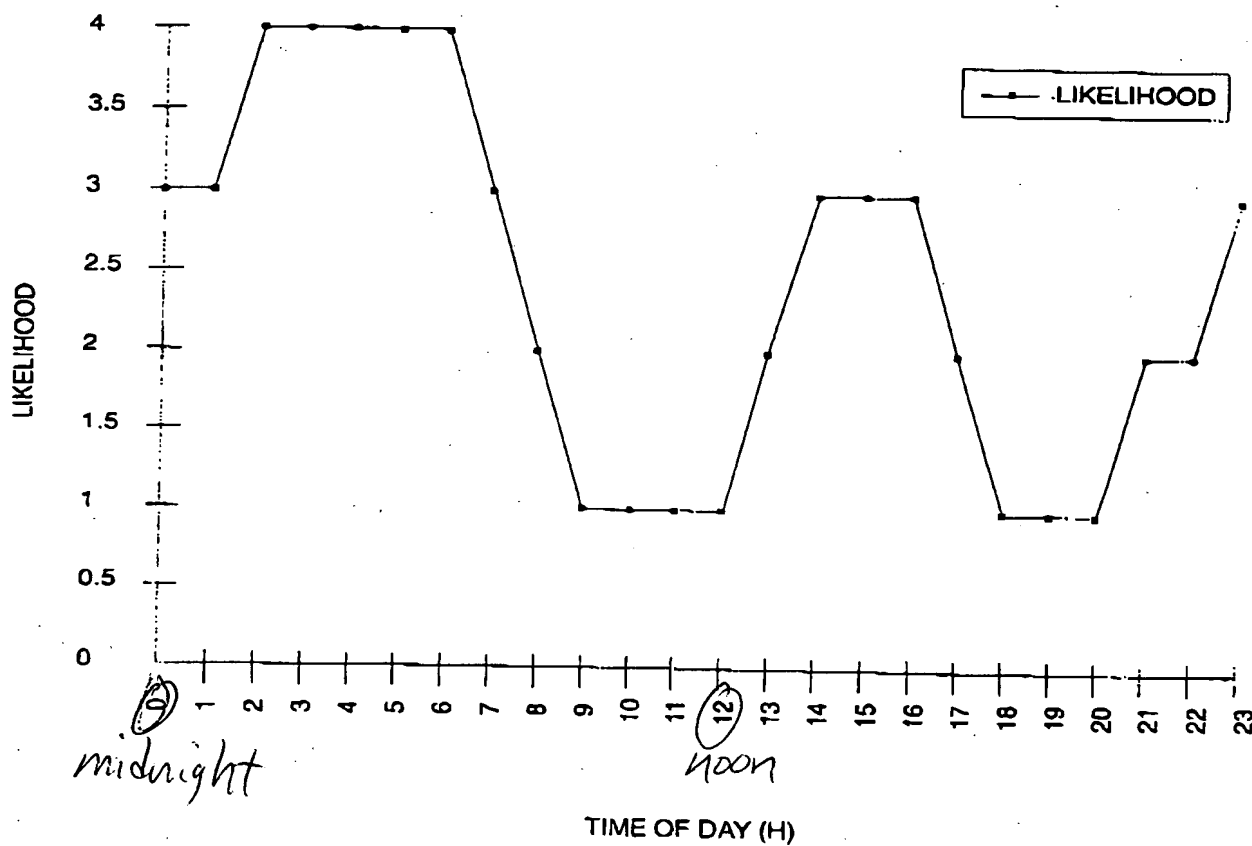
1= unlikely, 2= possibly, 3= likely, 4= very likely, 5= certain
(dead)

Figure 3

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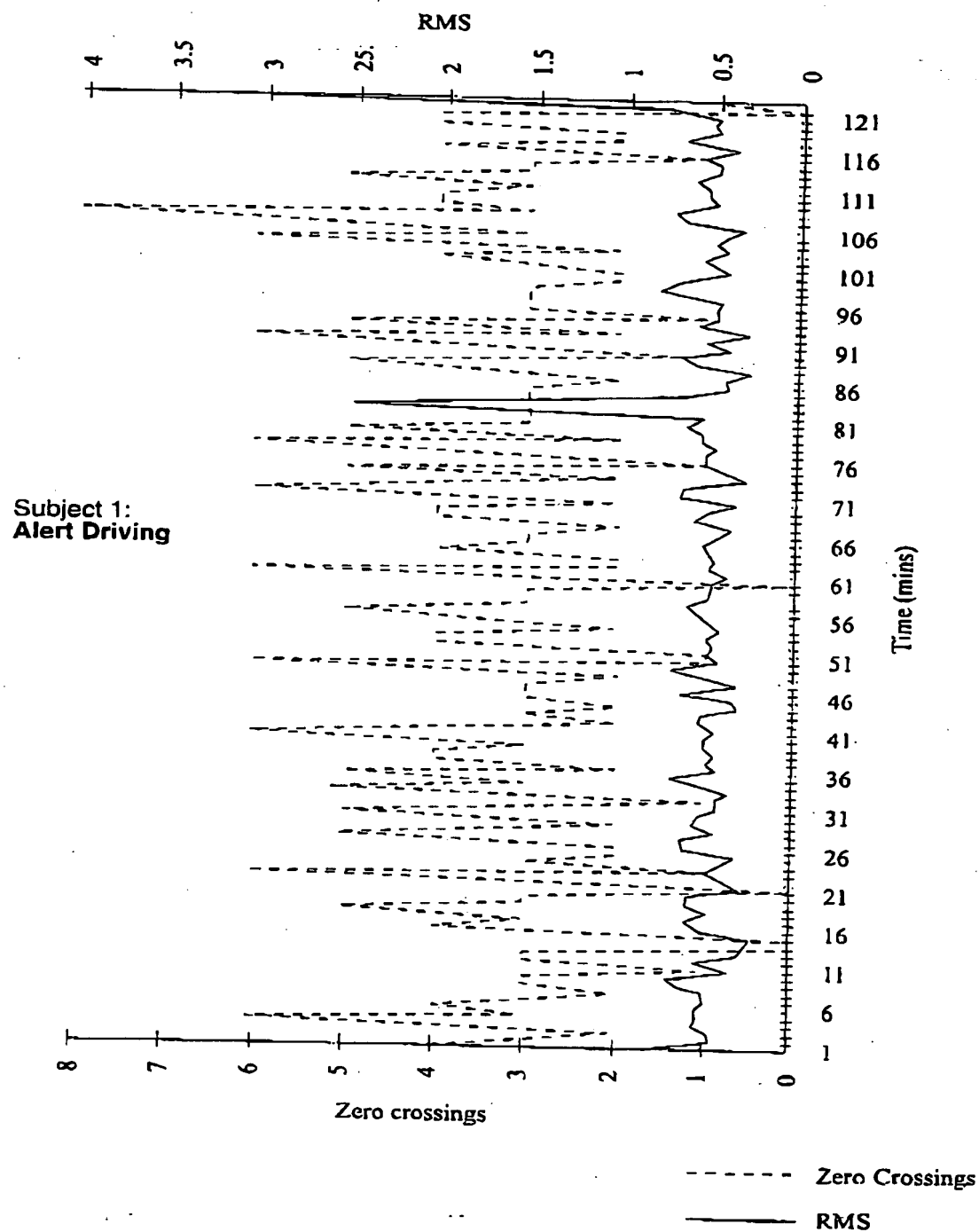
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Figure 4



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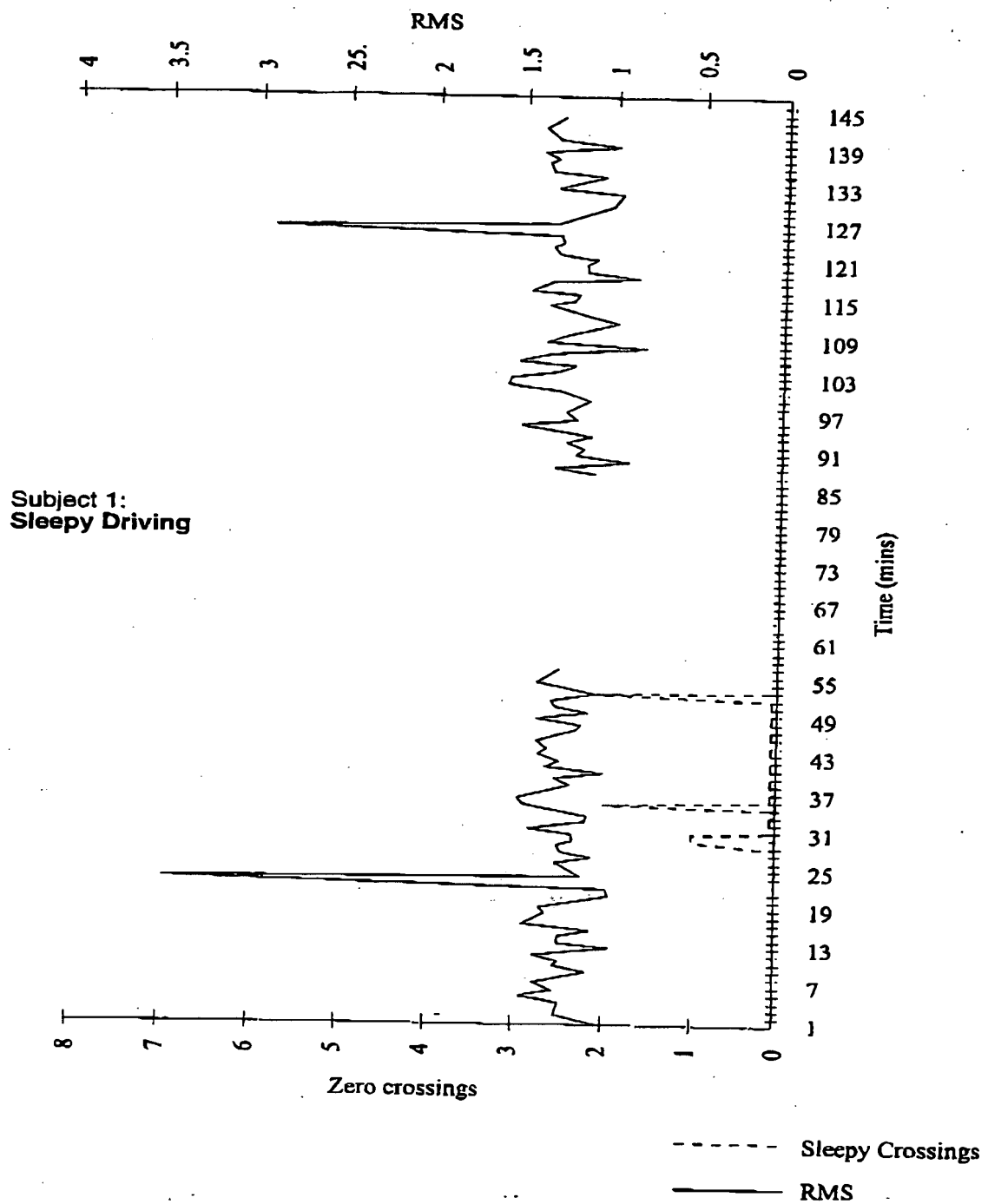
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Figure 5



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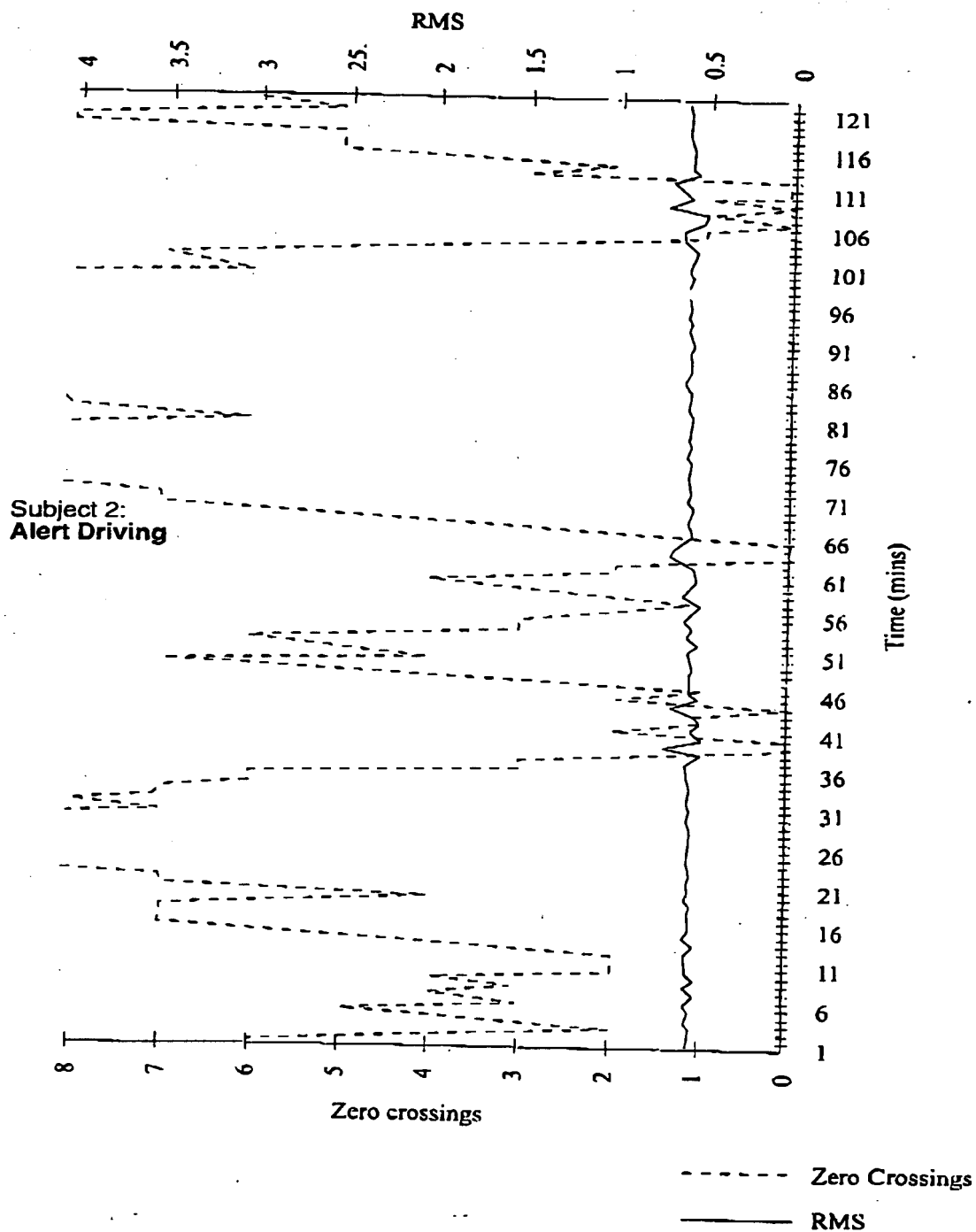
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Figure 6



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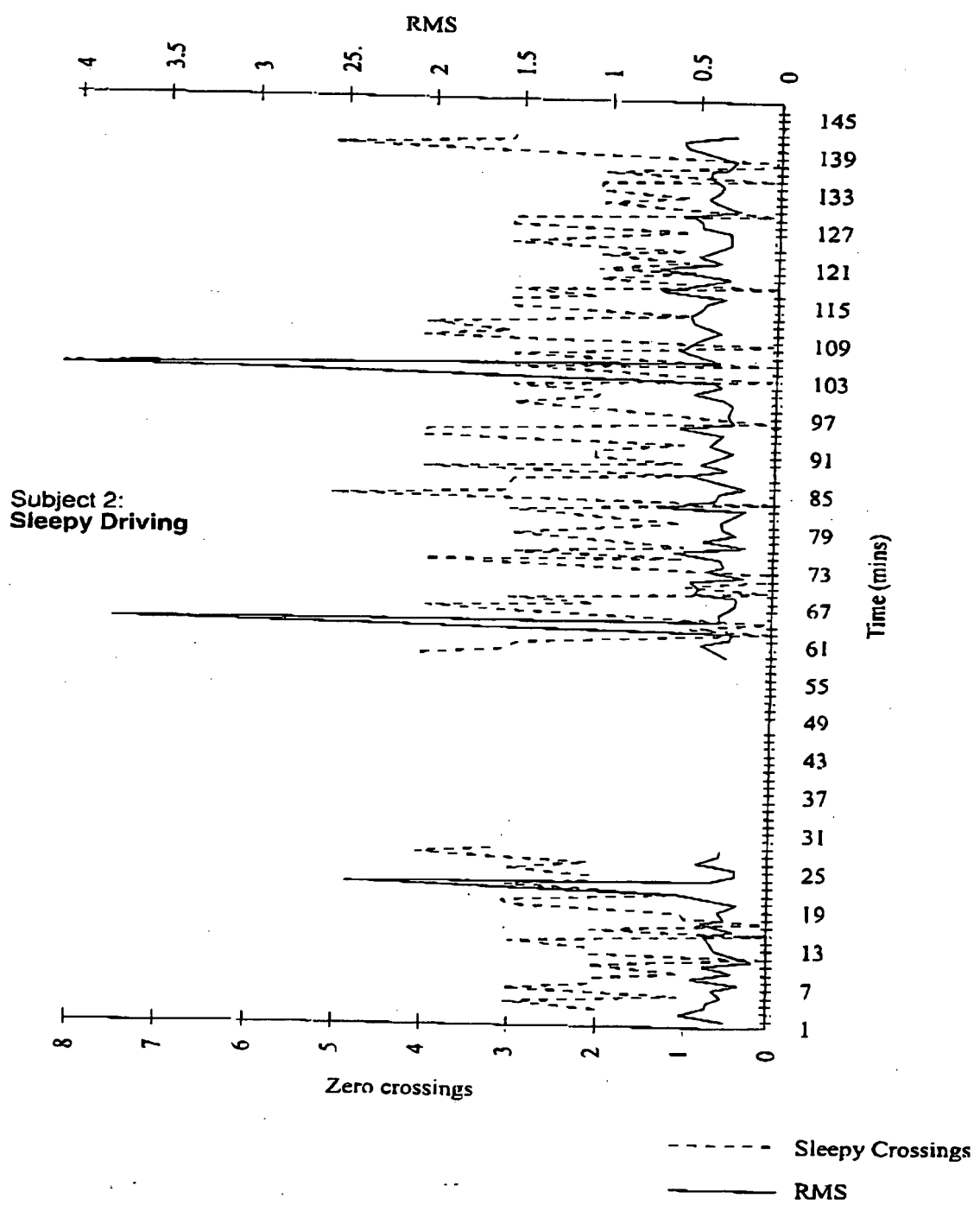
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Figure 7



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554280" E6074E60

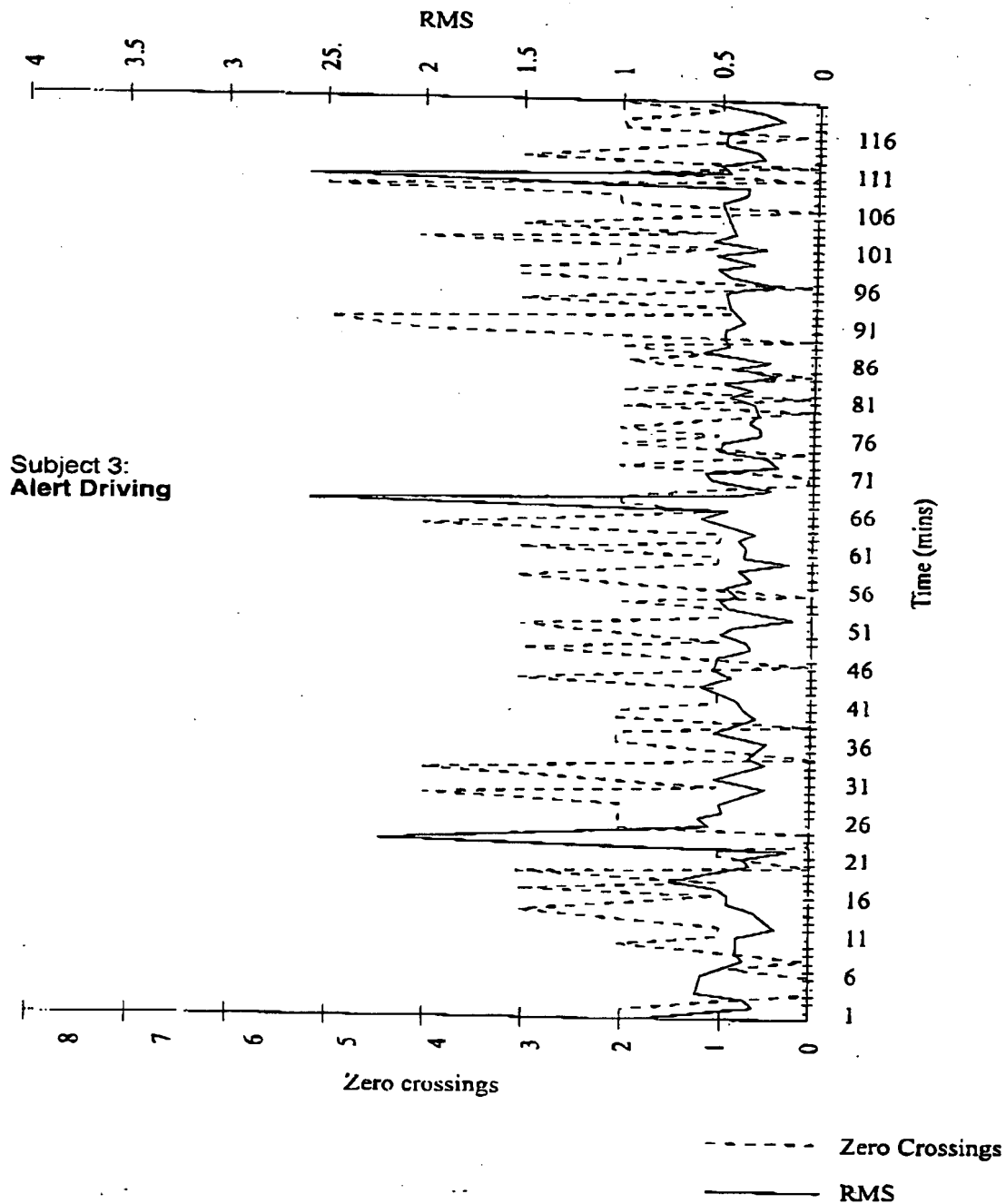
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Figure 8



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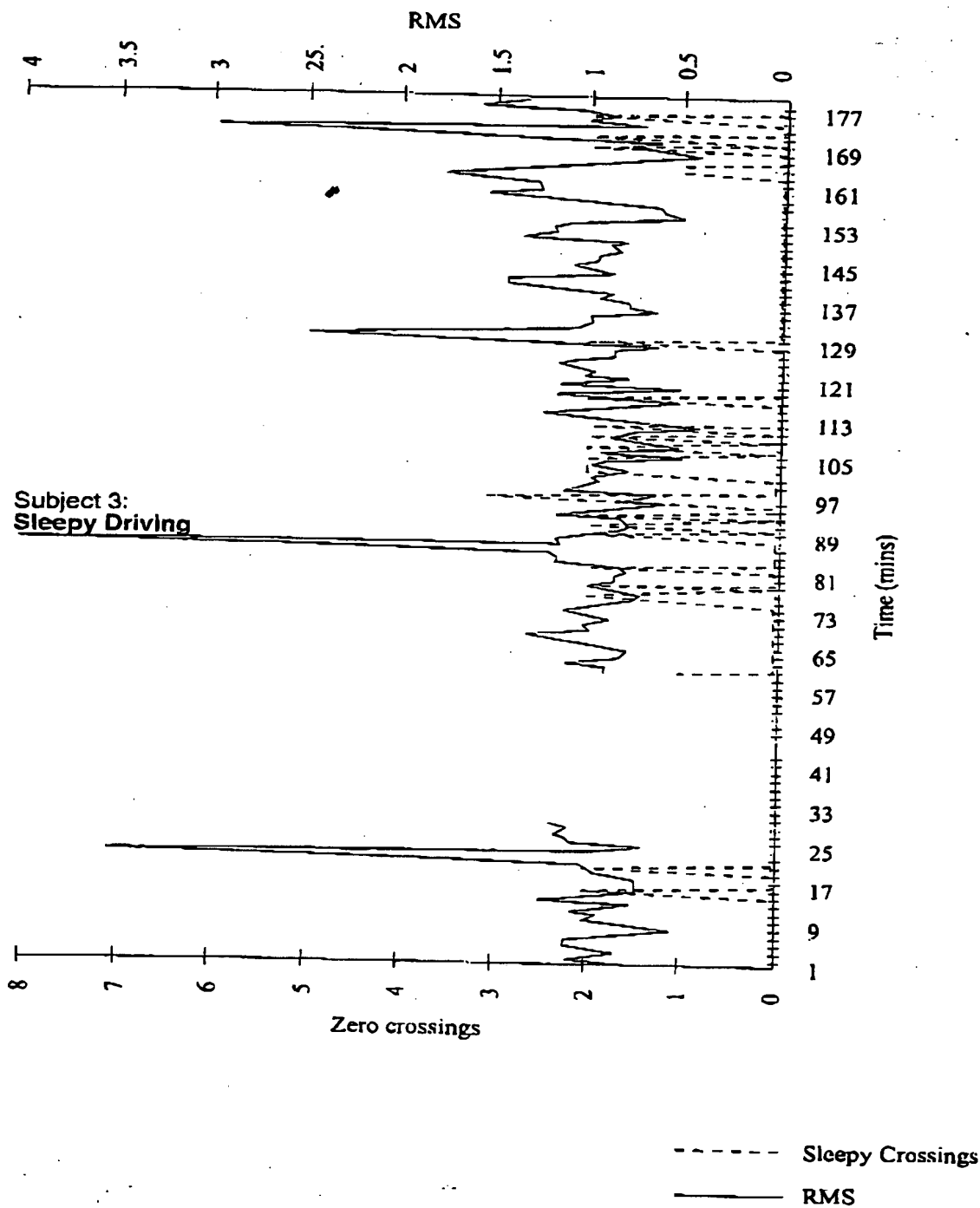
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Figure 9



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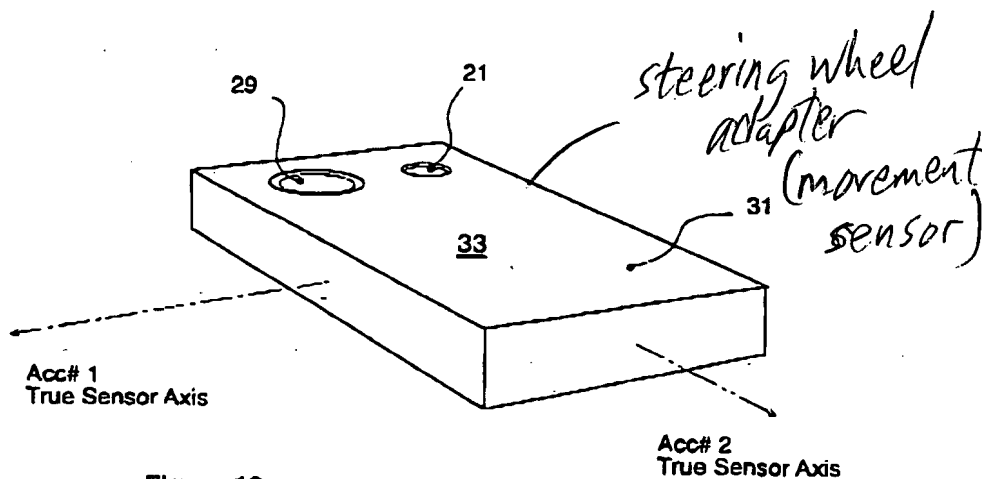
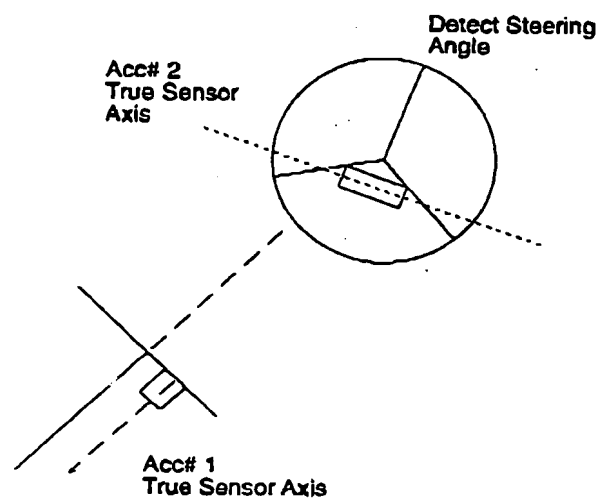
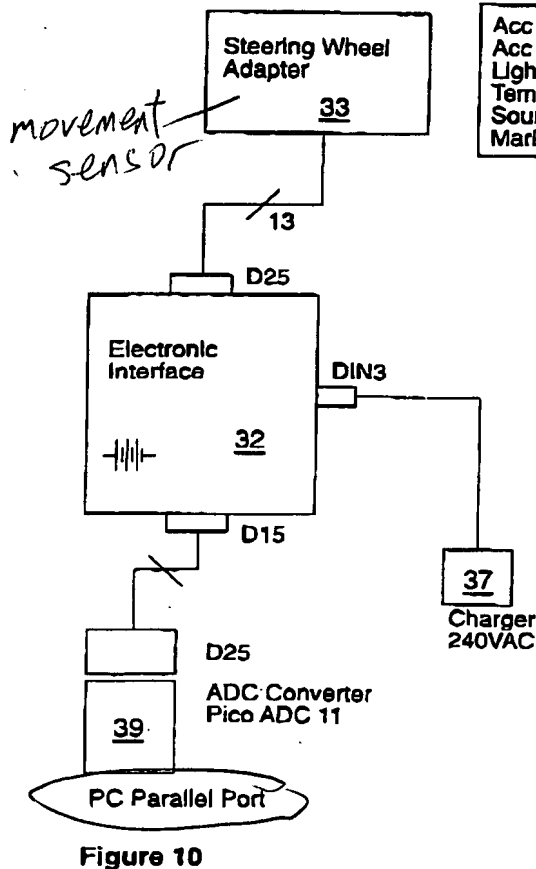
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Table 1

Acc # 1 - Vehicle Motion
Acc # 2 - Wheel Angle
Light Sensor - Ambient
Temp Sensor - Ambient
Sounder
Mark Button

Paper #10



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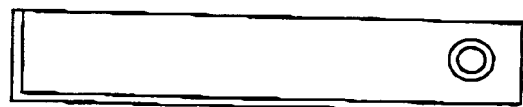
664280" E60T4E60

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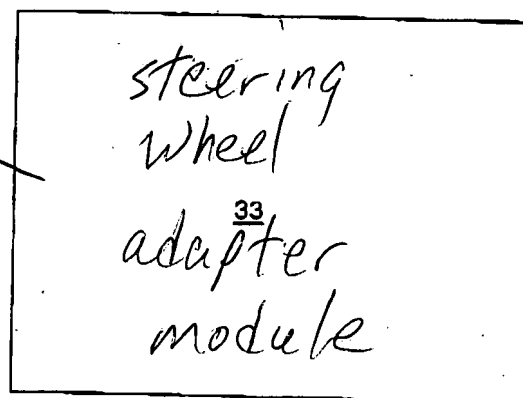
PCT/GB98/00015

11/30



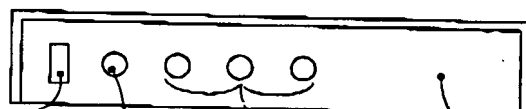
Rear panel
Figure 13D

movement
sensor



Top View
Figure 13C

Side view



29

Running LED

Warning LED's

18

Figure 13B

Figure 13A

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steering
wheel
movement
sensor

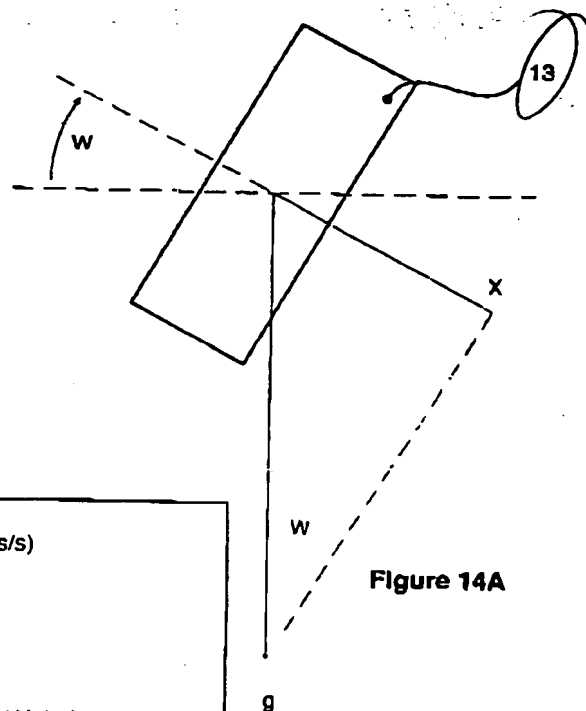


Figure 14A

Table 2

W - Wheel Rotation Angle
X - Measured component of g in sensor axis (m/s/s)
K wheel - Sensor scaling factor (mm/s/s/blt)
g - Gravity 9.81 m/s/s
g - Gravity Vector Component in wheel Plane

$$\sin W = X / g$$

$$X = k_{\text{wheel}} / 1000 \times (\text{Ch}(1) - \text{ZeroWheel}) \times 1 / \cos(\text{Alpha})$$

$$\sin W = k_{\text{wheel}} / (1000 \times g) \times (\text{Ch}(1) - \text{ZeroWheel}) \times 1 / \cos(\text{Alpha})$$

$$W = \text{ArcSin} [K_{\text{wheel}} / (1000 \times g) \times (\text{Ch}(1) - \text{ZeroWheel}) \times 1 / \cos(\text{Alpha})]$$

Paper
#10

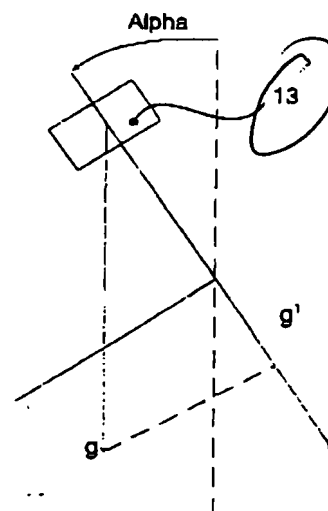


Figure 14B

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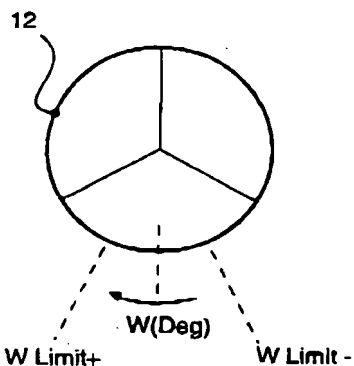
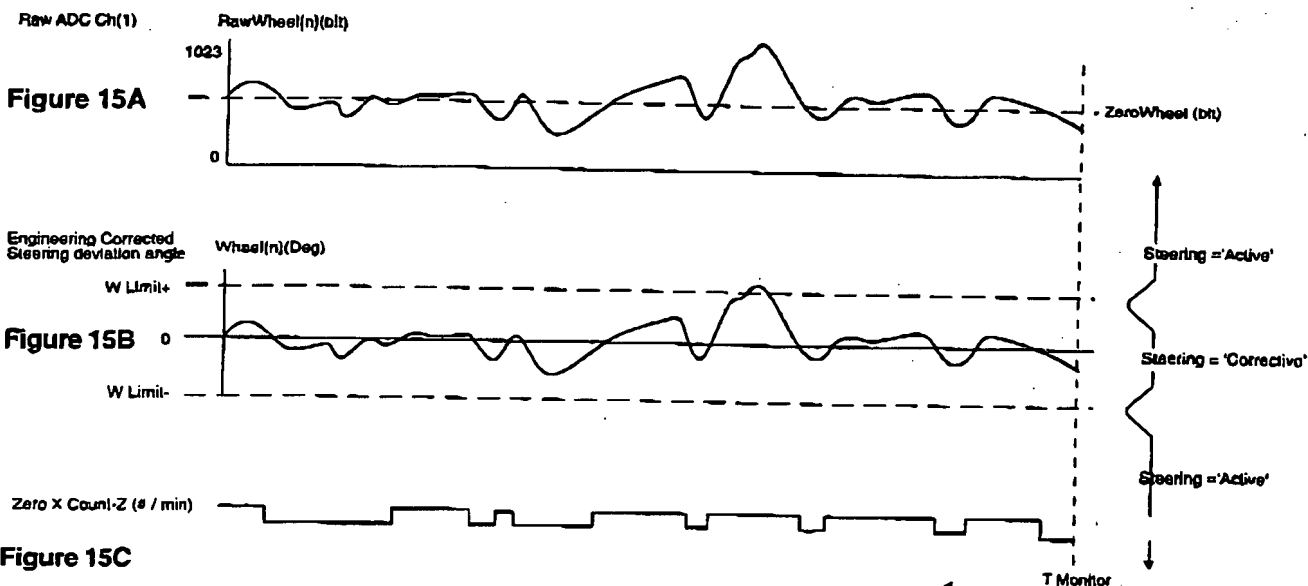


Table 3

$$\text{RMS Steering Angle } R(\text{Deg}) = \sqrt{\frac{\sum W_{\text{Wheel}}(n)^2}{n}}$$

Table 4

Bound Check

W Limit- < W < W Limit+
 W < W Limit-
 W > W Limit+

Steering Mode=Corrective
 Steering Mode=Active
 Steering Mode=Active

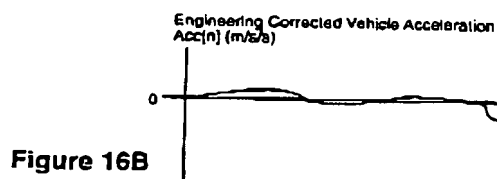
Figure 15D

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T monitor

Table 5

paper #10 →

RMS Vehicle Acceleration-G(m/s²)

$$\sqrt{\frac{\sum \text{Acc}(n)^2}{n}}$$

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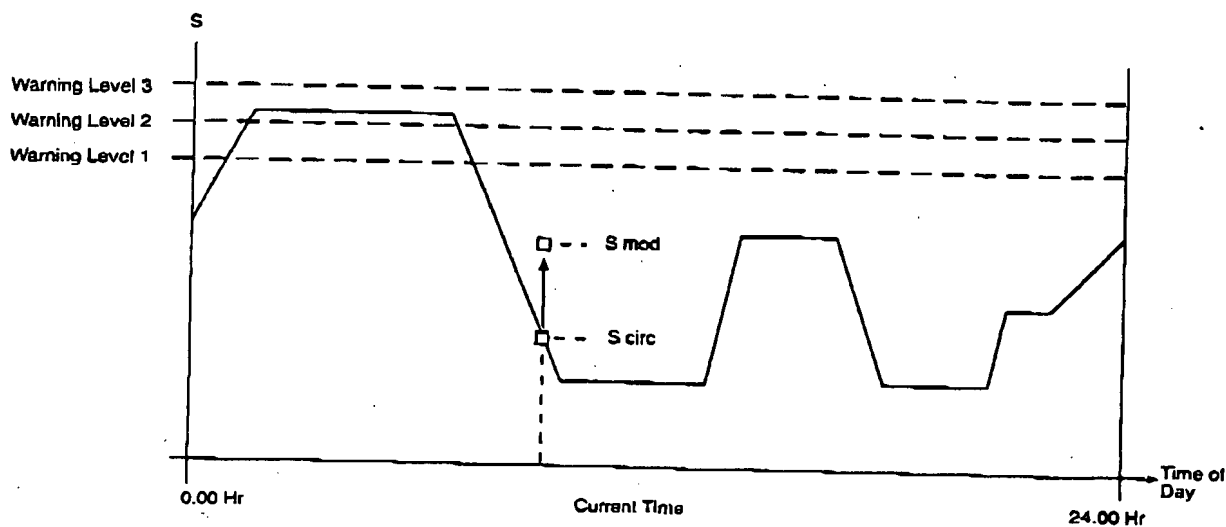


Figure 17

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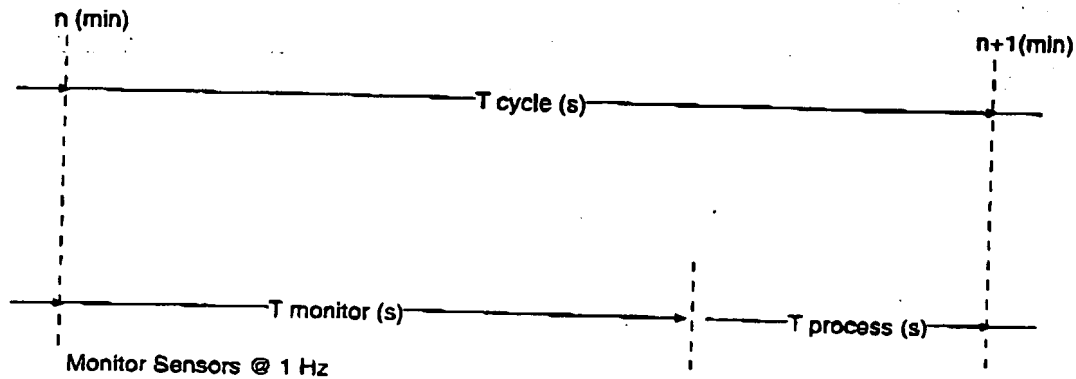


Table 6

T cycle = 60s
T monitor = 50s
T process = 10s

Calculate Parameters
Test & Issue Warnings
Update Screen Display
Store Sensor Data > Disk
Store Calculated Parameters > Disk

Figure 18

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Figure 19

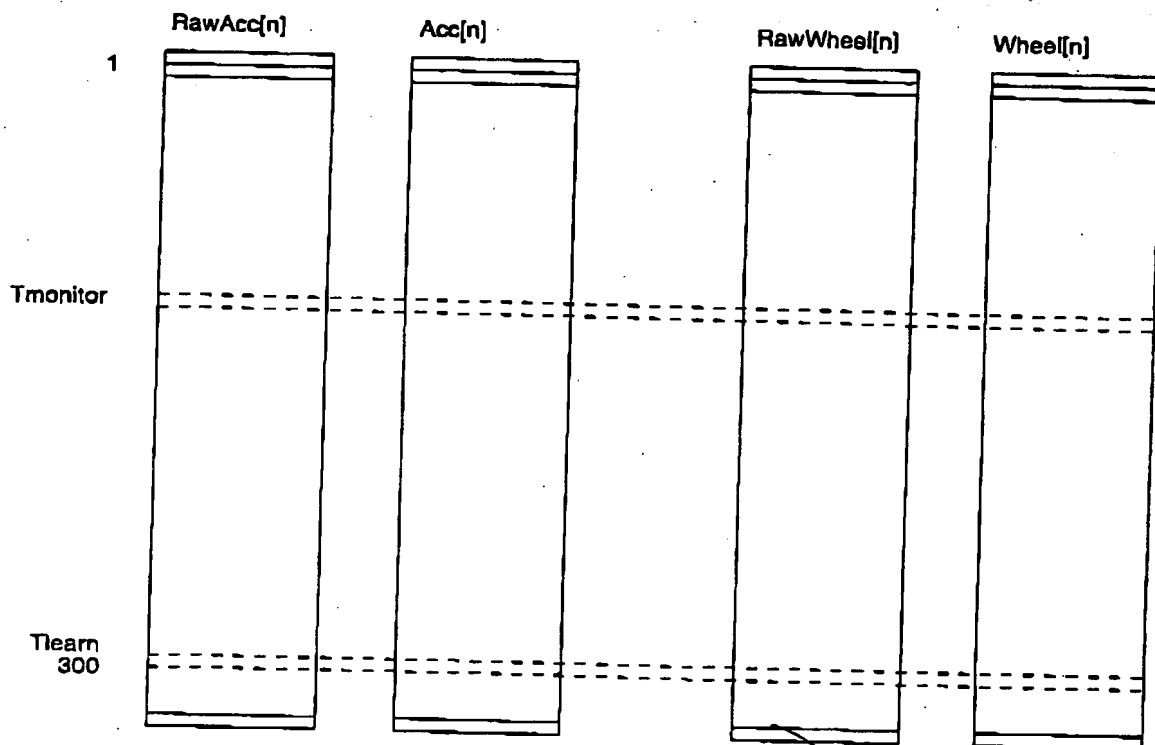


Table 7

Note:

Data storage @ 1Hz
ZeroAcc = Average (RawAcc[n])
ZeroWheel = Average (RawWheel[n])
Ch(N) = Raw ADC Value (bit)

Table 8

~~| | | | | |
|--|--------------|-------|-------|--|
| $Acc[n] = K_{acc}/1000 \times (RawAcc[n] - ZeroAcc) \times 1 / \cos(\alpha)$ | | | | |
| (m/s/s) | (mm/s/s/bit) | (bit) | (bit) | |
| $Wheel[n] = \arcsin [K_{wheel} / (1000 \times 9.81) \times (RawWheel[n] - ZeroWheel) \times 1 / \cos(\alpha)]$ | | | | |
| (Deg) | (mm/s/s/bit) | (bit) | (bit) | |
| $I = K_{light} / 1000 \times (Ch(2) - ZeroLight)$ | | | | |
| (KLx) | (Lx/bit) | (bit) | (bit) | |
| $T = K_{temp} / 1000 \times (Ch(3) - ZeroTemp)$ | | | | |
| (DegC) | (mDegC/bit) | (bit) | (bit) | |~~

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 paper
#10

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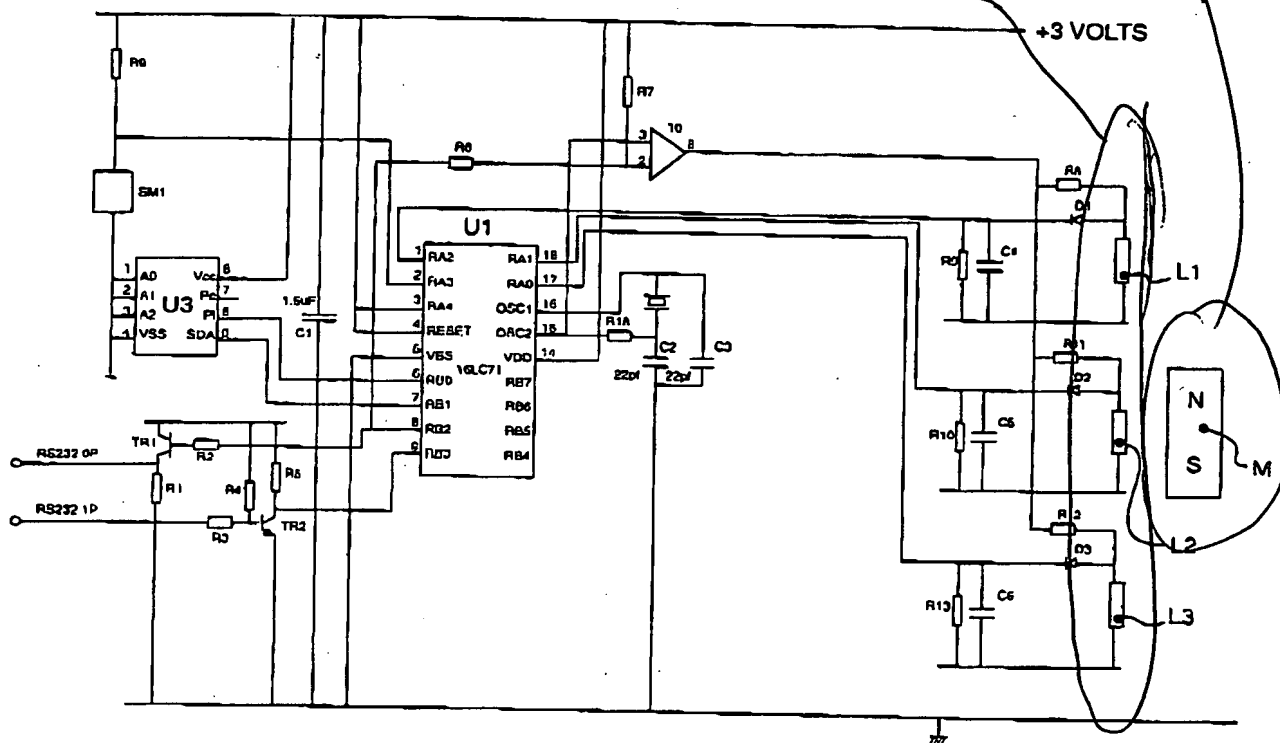
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magnet mounted on
steering column

3 inductors

+3 VOLTS



steering wheel movement sensor

Figure ~~1~~
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Paper #10 →

chg. of inductance
due to mag. flux coupling

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